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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,971	12/08/2003	Kia Silverbrook	ZE011US	9060
24011	7590	09/17/2004	EXAMINER	
SILVERBROOK RESEARCH PTY LTD			DO, AN H	
393 DARLING STREET			ART UNIT	
BALMAIN, 2041			PAPER NUMBER	
AUSTRALIA			2853	

DATE MAILED: 09/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/728,971

Applicant(s)

SILVERBROOK, KIA

Examiner

An H. Do

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/08/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for priority under 35 U.S.C. 119(a)-(d) based upon an application filed in Australia on 09 September 1998 and 16 October 1998. A claim for priority under 35 U.S.C. 119(a)-(d) cannot be based on said application, since the United States application was filed more than twelve months thereafter.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 08 December 2003 was filed and is being considered by the examiner.

Specification

3. The abstract of the disclosure is objected to because the term "Figure 85" in the last line should be deleted. Correction is required. See MPEP § 608.01(b).
4. The disclosure is objected to because of the following informalities: incomplete phase in specification on page 1 line 1 after "April 16, 2001" should include: ", now U.S. Patent No. 6,742,873."

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Jarrold et al (US 6,561,627).

Jarrold et al disclose in Figures 1-7 the following claimed limitations:

Regarding claim 1, a printhead (10) that comprises an elongate substrate (Figure 6, substrate 13) that defines a plurality of groups of ink supply channels (Figure 7, channels 28), each group being in fluid communication with a respective ink of a predetermined color and extending along a length of the substrate (13) along a plurality of substantially parallel paths; and a plurality of nozzle arrangements (Figure 1, inkjet devices 12) that are positioned on the substrate (13), each nozzle arrangement (inkjet device 12) comprising: a nozzle chamber structure (16) that is positioned on the substrate (13) to define a nozzle chamber (16) in fluid communication with an ink supply channel (channel 28) and an ink ejection port (nozzle 18) in fluid communication with the nozzle chamber (16); and a micro-electromechanical ink ejection mechanism (cantilevered beam 14) that is positioned on the substrate (13) operatively with respect to the nozzle chamber (16) to eject ink from the ink ejection port (18).

Regarding claim 2, in which the substrate (13) defines two rows (Figure 1 showing two rows of inkjet devices and hence, two rows of ink supply channels 28) of ink supply channels for each group of ink supply channels (channels 28).

Regarding claim 3, in which the nozzle arrangements (Figure 1, inkjet devices 12) are oriented so that a predetermined number of nozzle chamber structures (16) are

provided for each ink supply channel (28), said predetermined number of nozzle arrangements (inkjet devices 12) being positioned so that each group of ink supply channels (28) corresponds with two rows of nozzle chamber structures (16).

Regarding claim 4, in which the micro-electromechanical ink ejection mechanism (14) of each nozzle arrangement (inkjet device 12) includes an elongate actuator arm (Figure 3, two addressing electrodes 30, 32) that is fixed at one end to the substrate (13) and has an ink ejection member (Figure 4, pumping section 20) positioned on an opposite end (free end 22) and in a respective nozzle chamber (16), the nozzle arrangements (inkjet devices 12) being oriented so that the nozzle chamber structures (16) of each pair of rows are adjacent each other (Figure 1), with the actuator arms (Figure 3, two addressing electrodes 30, 32) of each row of nozzle arrangements (inkjet devices 12) being in a side-by-side orientation, such that the nozzle arrangements (inkjet devices 12) define three spaced pairs of rows of nozzle chamber structures corresponding to respective inks (Figure 1 shows just a portion of the inkjet printhead).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jarrold et al (US 6,561,627).

Jarrold et al disclose the claimed invention except for explicitly reciting each ink supply channel (28) is in fluid communication with ten nozzle chamber structures. Jarrold et al, however, disclose in Figures 1 and 7 each ink channel (28) is in fluid communication with an array of inkjet devices 12.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the ink supply channel in fluid communication with ten nozzle chamber structures so as to supply ink to a plurality of ink chambers.

Allowable Subject Matter

9. Claims 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claims 5 and 6 is the inclusion of the limitation of a printhead that includes a plurality of nozzle arrangements positioned so that the actuator arms of the nozzle arrangements are oriented at an acute angle with respect to a print medium feed direction. It is this limitation found in the claims, as it is claimed in the combination of, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lebens et al (US 6,631,979), Cabal et al (US 6,598,960) and

Trauernicht et al (US 6,685,303) disclose an inkjet printhead having micro-electromechanical thermal actuators for ejecting ink upon heating

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to An H. Do whose telephone number is 571-272-2143. The examiner can normally be reached on Monday-Friday (Flexible).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



AD
September 8, 2004

K F, — 9/04
Primary Exa.